

## **ABSTRACT**

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**Title of diploma thesis:** HPLC Determination of Benzimidazoles

In this thesis we have investigated the possibility of establishing benzimidazole with HILIC chromatography using a chromatographic column Ascentis Express HILIC 10.0 cm x 3.0 mm; 2.7 microns.

Two groups of benzimidazoles were tested. The first one was focused on albendazole and its metabolites. Experiments with these substances did not produce satisfactory results, because the mobile phase composition which enables separation of the studied analytes was not found.

The second group was formed by flubendazole and its reduced and hydrolyzed form. In this case, several mobile phase compositions were tested. Finally, distribution of individual analytes in a mixture, using a mobile phase ACN:HCOOH 0.03 mol/l (90:10), was successfully achieved. Ricobendazol was chosen as an internal standard.

When separation conditions were found, calibration curve for the determination of reduced flubendazole in biological samples was subsequently constructed using ricobendazol as the internal standard with the use of fluorescence detection.

**Keywords:** HILIC, HPLC, albendazole, flubendazole, calibration dependence.